

What is claimed is:

1. A universal programmer or interrogator for communications with various types of implantable devices (IMDs) from different manufacturers including a digital signal processing (DSP) circuit, comprising:
  - means for receiving a data signal from any one of the IMDs; and
  - means for modulating said data signal consistent with one of a distinct modulation mode specific to one of the IMDs.
2. The universal programmer of claim 1 further comprising:
  - an antenna system;
  - a receiver in operable communication with the antenna for receiving and amplifying of said data signal; and
  - a transmitter for transmitting a data signal to said one of the IMDs.
3. The universal programmer of claim 1 wherein said DSP circuit includes means for conserving battery life.
4. A multi-mode programmer in proximal and remote data signal communication link with various types of medical devices and remote monitors from different manufacturers comprising:
  - a DSP circuit;
  - a transceiver in operable electrical communication with the circuit;
  - and
  - means for modulating the data signal consistent with one of and combinations of the modulation scheme of the medical devices and the remote monitor wherein said means for modulating includes an operable electrical communication with the circuit.
5. The programmer of claim 4 wherein said medical devices include one of implantable devices and externally mounted devices.

6. The programmer of claim 4 wherein said remote monitor includes a bi-directional communication network with a hospital or clinic for long distance remote patient monitoring.
7. The programmer of claim 4 wherein said transceiver includes an antenna adapted for both far-field and near-field telemetry.
8. The programmer of claim 4 wherein said DSP circuit includes a DSP chip fully static with low power modes forming an operable electrical system in combination with support circuitry.
9. The programmer of claim 8 wherein said support circuitry includes an antenna scheme having a first and second antenna disposed concentric one with the other.
10. The programmer of claim 9 wherein said first and second antennas are co-planar.
11. The programmer of claim 4 wherein said transceiver includes means for real-time test, means for signature evaluation and means for operating various Rx/demodulation to detect and identify the type of medical device being interrogated.
12. The programmer of claim 11 wherein the programmer is one of a patch, a belt-worn pager, PDA play-in module, a laptop plug-in module, a pendant and a watch.
13. The programmer of claim 4 wherein the communication link includes RF, IrDA, and ultra sound.
14. The programmer of claim 4 wherein the DSP circuit includes means for reducing power requirements.

15. The programmer of claim 7 wherein said antenna includes means for battery recharge input.

16. The programmer of claim 4 wherein the communication link includes an internet connection via a transponder.